DOCKET NO. D-69-210 CP (FINAL) (Revision 11)

DELAWARE RIVER BASIN COMMISSION

Exelon Generation Company, LLC
Mine Pool Withdrawal and Stream Flow Augmentation Demonstration Project
Limerick Township, Montgomery County and New Castle Township, St. Clair Borough, and Norwegian Township, Schuylkill County, Pennsylvania

PROCEEDINGS

This is an application submitted by Exelon Generation Company, LLC (Exelon) on May 16, 2003, for an allocation of surface water and review of a stream flow augmentation demonstration project.

The applicant plans to demonstrate the feasibility of using mine pool water from Wadesville Mine Pool and additional releases from reservoirs operated by the Borough of Tamaqua for stream flow augmentation during a four to six month period following approval of this application.

The application was reviewed for revision of the project in the Comprehensive Plan and approval under Section 3.8 of the Delaware River Basin Compact. The Montgomery County and Schuylkill County Planning Commissions have been notified of pending action on this docket. A public hearing on this project was held by the DRBC on June 26, 2003.

DESCRIPTION

Purpose. – The purpose of this application is to request approval for an approximately four to six month demonstration project utilizing existing mine pool water to provide up to 432 million gallons per 30 days (14.4 mgd) of augmentation flow to tributaries of the Schuylkill River at Pottsville for downstream withdrawal directly from the main stem Schuylkill River. The water will be pumped on a periodic basis from the Wadesville Mine Pool on properties of the Reading Anthracite Company located in New Castle and Norwegian Townships and St. Clair Borough in Schuylkill County Pennsylvania. Exelon proposes to withdraw from the augmented flow of the Schuylkill River for use as an alternative source of cooling water at its Limerick Generating Station (LGS) in Limerick Township, Montgomery County, Pennsylvania, approximately 78 river miles downstream of the augmentation source.

The demonstration project will also include additional releases, beyond those currently approved in Docket D-69-210 CP FINAL, from reservoirs operated by the Borough of Tamaqua to increase reliability and to allow for operational flexibility at times when Schuylkill River flow and temperature restrictions or other conditions require augmentation, subject to the yield limitations established for Tamaqua.

Location. – No changes are proposed in the location of any existing facilities associated with the application. The existing pumping and conveyance system currently used at the Wadesville Mine Pool to maintain the water level of the Wadesville Mine Pool on the Reading Anthracite Company property is located at the border of New Castle and Norwegian Townships, just west of St. Clair Borough, all within Schuylkill County, Pennsylvania.

The Wadesville anthracite mine field is located in the Llewellyn Formation and there are no active deep mines in or near the area. The Wadesville Operation extends for approximately 2,000 acres in the Townships of Norwegian and New Castle, plus the Borough of St. Clair, all within Schuylkill County in Pennsylvania.

The existing project facilities are found on the "Pottsville, PA" USGS Quad and are located as follows:

FACILITY	LATITUDE (N)	LONGITUDE (W)
Wadesville Pump House	40° – 42' – 55"	76° – 12' – 22"
Wadesville Outfall	40° – 42' – 52"	76° – 12' – 24"

The existing outfall will be used to discharge mine pool water via a dry swale to East Norwegian Creek in the Schuylkill River Watershed. East Norwegian Creek joins with West Norwegian Creek to form Norwegian Creek, which flows under the Borough of Pottsville, via culvert, to join the Schuylkill River at River Mile 123.4.

The water diverted from the Wadesville mine pool would be discharged to East Norwegian Creek through the existing outfall at River Mile 92.47 – 123.4 – 2.9, approximately one-half mile south of the mine pool.

Physical features. –

a. **Design criteria.** – The applicant proposes that, during the demonstration project, when the consumptive cooling use of Schuylkill River water for Limerick Units 1 and 2 is restricted due to flow and temperature limitations [Reference DRBC Docket No. D-69-210 CP (Final)], water from the Wadesville mine pool would be pumped and discharged to East Norwegian Creek, a tributary of the Schuylkill River, such that the total quantity of this flow (less losses while in transit) would be used to provide a consumptive cooling water source to LGS. When used in combination with other consumptive cooling make-up sources (Tamaqua Reservoir, Delaware River), these sources in total would be at least equal to the entire consumptive cooling water need at LGS. The applicant proposes to balance augmentation flow via a monthly averaging method during the demonstration project.

Existing Withdrawal Synopsis:

The applicant's withdrawal from the Schuylkill River, for consumptive usage, is currently restricted from withdrawal, via Docket D-69-210 CP Final, predicated upon the following 24 hour average flow and/or temperature conditions:

- When the river flow measured at the United States Geological Survey (USGS) gage station at Pottstown is, with one unit operating, less than 530 cubic feet per second (cfs) or, with two units operating, less than 560 cfs (allowing for flow augmentation from DRBC sponsored projects); or,

- When the river ambient water temperature exceeds 59°F (except during April May, and June when the river flow measured at the Pottstown gaging station exceeds 1,791 cfs (1,157 mgd)).

When the restrictions described above on the use of Schuylkill River water are in effect, LGS withdraws consumptive cooling water from Perkiomen Creek. Natural flows of Perkiomen Creek may be used when its flow is at least 180 cfs (for the equivalent of one unit operation) or 210 cfs (for two unit operation) as measured at the USGS Graterford gaging station. During periods when the natural flow criterion for Perkiomen Creek is not met, Exelon uses an intrabasin transfer of water of approximately 40 mgd from the Delaware River to augment flow in the Perkiomen Creek.

The applicant's rate of release into the East Branch Perkiomen Creek via the diversion from the Delaware River is equal to LGS' maximum consumptive water demand plus an additional 3 percent for losses while in transit during the approximately 18 hour transit time. The flow in the East Branch enters into the main stem of Perkiomen Creek where Exelon's Perkiomen Pumphouse is used to pump the consumptive makeup water to the station through a pipeline.

After the seasonal requirements for use of the diversion system are over, Exelon must maintain a minimum flow of 10 cfs in the East Branch until the following year when the diversion system is again placed in service. Beginning with the day that pumping commences at Bradshaw Reservoir, the minimum rate of release from Bradshaw Reservoir to the East Branch must be 27 cfs throughout the normal low flow period.

In the event that, under emergency conditions, consumptive makeup water from the diversion system is unavailable when needed, or insufficient, the current docket allows and Exelon has a contract with the Borough of Tamaqua's Water Authority for compensatory releases of water from its reservoir system into the Schuylkill River. Currently, this use is restricted to emergency situations, such as when temperatures and flow conditions at the Schuylkill intake preclude withdrawal and the Point Pleasant Diversion is out of service. For purposes of the demonstration project, the Tamaqua source will be available to offset Schuylkill River impacts and/or make-up needed flow.

To implement the current LGS Makeup Water System Operating Plan, the LGS Control Room automatically receives data from installed components, monitors necessary parameters, and performs

necessary actions to start, stop, and regulate flows. This includes withdrawals from the Schuylkill River and Perkiomen Creek, and transfers of water from Bradshaw Reservoir.

In summary, depending on the flow and temperature conditions in the Schuylkill River and the water supply system availability, withdrawal of consumptive use makeup water for LGS is made in this order:

- Withdrawals from the Schuylkill River
- Withdrawals from the Perkiomen Creek
- Withdrawals from the Delaware River at Point Pleasant, for release to East Branch Perkiomen Creek and subsequent withdrawal at the Perkiomen Pump Station.

The diversion of water from the Delaware River for LGS' consumptive cooling supply is accomplished through a series of pumping stations, the Bradshaw Reservoir, and transmission mains. The Point Pleasant Pumping Station, which is currently owned and operated by Forest Park Water Authority, is used to transfer water from the Delaware River to the Bradshaw Reservoir as necessary to maintain adequate reservoir operational volume and reserve storage. The reservoir, which is owned and operated by Exelon, includes a pumping station that is used to transfer water when required to the East Branch Perkiomen Creek via a transmission main. A water processing (treatment) facility seasonally injects ozone into the main to disinfect the water before it reaches the East Branch. Currently, approximately 18 mgd (on average) of the water diverted from the Delaware River passes through the reservoir for subsequent use by Forest Park as a public water supply.

Proposed Withdrawal:

The proposed demonstration operating plan would, through augmentation, provide for withdrawal from the Schuylkill River at the LGS site during times when natural low flow or temperature conditions in the Schuylkill River would otherwise restrict Exelon from withdrawal, provided that the augmentation effect at the Limerick Station precludes those conditions in the river. The objective of the revised operations is the maintenance of a flow regime in the Schuylkill River below the LGS site during withdrawal at the LGS site equivalent to the flow regime without the augmentation and withdrawal. Between the augmentation inflow point and the LGS withdrawal, the flow regime will modified.

Mine pool water will be withdrawn using existing pumps operating on a periodic basis at a rate of up to 10,000 gpm (14.4 mgd or 22.4 cfs), which represents approximately 40% of the average consumptive use makeup requirement of the Limerick Generating Station. The applicant proposes to conduct, at a minimum, a four month study to demonstrate that the mine pool water when pumped at this rate and discharged to East Norwegian Creek within existing water quality limitations, will not have adverse environmental impacts and will measurably improve the water resources of the Schuylkill River Basin. Following this study, it will be determined if additional water of acceptable quality is available from the mine pool, so that the applicant can seek approval to have the pumping

capacity increased to 12,000 gpm (17.3 mgd) and the depth of withdrawal increased by approximately 100 feet.

The demonstration project will also evaluate the impact on the Little Schuylkill and Schuylkill Rivers of additional releases, beyond those currently approved in Docket D-69-210 CP FINAL, from reservoirs operated by the Borough of Tamaqua.

b. **Facilities** -- The Wadesville Mine Pool and the dewatering pumps have been operational for 50 years. The Mine Pool is approximately 700 feet deep and 1,800 feet wide at the surface, but extends underground via a network of shafts to encompass a total area of approximately 2000 acres. An estimate of the amount of water stored in the mine pool (3.4 billion gallons) was determined in 1953. The owner of the Wadesville Operation, Reading Anthracite Company, expects to discontinue strip mining activity by the year 2007. Geologically, the mine is located in the Llewellyn Formation and has desirable alkalinity characteristics. The pH, total iron, total suspended solids, and manganese concentrations meet the limits of PADEP's NPDES Permit No. PA0593508 applicable to the existing mine pool discharge. As the existing outfall will be used, no new stream bank erosion is expected and DRBC's instream turbidity objectives should be met. The applicant proposes to monitor these parameters as well as any other parameters that may need to be monitored after a characterization evaluation of the mine pool water; this will be a part of the initial demonstration study and monitoring will be required thereafter in accordance with the current NPDES permit. As the outfall to East Norwegian Creek includes an approximately 40-foot, highly turbulent cascade, it is anticipated that aeration will occur and the dissolved oxygen levels will be monitored on a periodic basis. It is estimated that 3% (0.44 mgd or 0.67 cfs) of the project flow augmentation will be lost to evaporation and ground water recharge.

b. **Other** –

Wadesville Mining Operations

The deep mine operation at the Wadesville Colliery was discontinued in 1930, and with the cessation of pumping, the mine water level increased to an elevation whereby the overflow discharged into Mill Creek from the abandoned Saint Clair Shaft Colliery shaft.

In 1949, the now Reading Anthracite Company (RAC) started strip mining operations for recovery of coal from the Mammoth and overlying Orchard, Holmes, and Primrose Veins. Beginning with this operation, RAC installed deep well pump equipment on the Wadesville Tender Shaft and, until the temporary abandonment of the stripping operation in 1961, discharged mine water into East Norwegian Creek. With the pumping again discontinued the elevation of the water in the mine workings increased to a height where the strip mine operations were also inundated and the overflow again discharged into Mill Creek through the old Saint Clair Colliery Shaft.

RAC reactivated the present strip mine operations in 1965 in the area of the former, now abandoned, Wadesville Colliery mine workings, as an extension of the former Wadesville stripping operations. The stripped area under the overall plan involved 108 acres at the time, recovering the

remaining coal left from previous deep mine operations and former stripping operations. The initial phase of strip mining involved the removal of overburden and recovery of coal from the veins that overlie the Mammoth Vein and previously had been partially stripped. During the second phase of stripping operations, coal was mined from the underlying Mammoth Vein requiring a pit depth of 400 feet and the consequent lowering of the impounded mine water in the flooded mine workings.

The present Wadesville Operation is regulated by two surface mining permits (SMP):

- SMP No. 54713002, last renewed in January 1997, that includes the original open pit known as the P-33 mine or the "doughnut hole"; and
- SMP No. 54860108, last renewed in December 1997, that surrounds the P-33 mine and is known as the "doughnut" permit.

The "doughnut hole" permit was originally issued as SMP No. 5471311 in 1971 for 218 acres, but was re-permitted in September 1985 to meet the requirements of 25 PA Code Chapters 86 and 88 (plus the PA Surface Mining Conservation and Reclamation Act and the Federal Surface Mining Conservation and Reclamation Act). The current pit depth is approximately 600 feet.

The "doughnut" permit was originally issued in May 1988 for 1,469 acres with authority to conduct mining activities granted for the mining area of 100 acres.

Hydrogeology

The Wadesville mining operation is in the Beechwood-Wadesville-Pine Forest Basin of the Southern Middle Anthracite Field in Schuylkill County, Pennsylvania, and geologically in the Llewellyn Formation. There are no active deep mines in or near the area. Other than mine reclamation activities, there are no identified solid waste disposal sites on or near the mine area.

The Wadesville mine overlies the underground mining operations in the Skidmore and Buck Mountain Veins of the former Saint Clair Back Basin Colliery. The mine is bounded on the west by barrier pillar IX, which adjoins the Oak Hill mine and on the east by barrier pillar VII, which adjoins the Pine Forest mine. The barrier pillar for Oak Hill is considered to be effective below Elevation (El) 702 feet above Mean Sea Level (MSL). The barrier pillar for Pine Forest is considered to be effective below El 732 feet MSL, which is the natural overflow elevation of the Wadesville Pool. Inflow from the interconnected abandoned mine workings occurs when the elevation of mine water is reduced to approximately El 400 feet MSL. Information published in a 1953 bulletin by the Bureau of Mines states that the:

- Surface elevation at Wadesville is at El 821.2 feet MSL;
- Elevation of the Pool Bottom is El 85 feet MSL;
- Overflow elevation at a concrete pipe at the Saint Clair shaft is El 732 feet MSL; and
- Estimated water in the workings is 3.4 billion gallons (in 1953).

Wadesville Discharge

The primary discharge is a pumped discharge from the Wadesville shaft. The post-mining discharge location (after pumping ceases) is defined in the Special Conditions of Surface Mining Permit No. 54713002R2, and is at the Tender Shaft in Mill Creek near Route 61 in Saint Clair.

The existing pump house, which is located at the Wadesville shaft approximately ¼ mile from the open pit, contains pumping equipment used for dewatering of the mine pool to support present-day operations. The top of the shaft is at elevation 782 feet MSL and its bottom elevation is at 46 feet MSL. Two vertical turbine pumps are presently installed and operate to maintain the water level at approximately 450 feet (El 332 feet MSL) below the surface. The bottoms of the pumps are approximately 500 feet (El 282 feet MSL) below the surface. The pumps are capable of discharging at a rate in the range of 9,000 to 10,000 gpm total.

The discharge path from the pump house to the Schuylkill River is open-channel flow via a dry swale to East Norwegian Creek until it reaches the northern end of Pottsville. At this point, an underground conduit channels the flow through Pottsville until it daylights on the southern end and flows into the Schuylkill River.

RAC maintains the mine pool by pumping to an elevation below active mining. When pumping operations are completed, the water level will rise in the mine pool to an elevation of approximately 732 feet MSL and overflow into the old Saint Clair shaft. Records show that this drainage system has been in place since 1931. The volume and load of the natural overflow of mine water from the Wadesville Mine Pool through the Saint Clair shaft would be expected to vary depending on the time of the year and the amount of precipitation. Based on a limited number of tests of this gravity discharge, the outflow was in the range of 1,500 gpm to 4,500 gpm. The discharge from the shaft is conveyed through a 24 inch diameter terracotta pipe, which RAC estimates to have an 11,000 gpm carrying capacity. In 1996, concerns were raised about the possibility of flooding in the Saint Clair Borough area from post mining discharge. After extensive studies and review of the issues raised by concerned parties, PADEP's District Mining Office in Pottsville concluded that no flooding would be caused by the discharge. However, PADEP included contingency plans in the mining permits to maintain drainage at the 732 feet elevation and provide additional relief points if necessary.

The Wadesville operation holds NPDES Permit No. PA0593508 for the pumped discharge. Currently, RAC's NPDES Permit contains numerical discharge limitations on:

- Total Suspended Solids [35 milligrams per liter (mg/l) Average Monthly, 70 mg/l Maximum Daily]
- Total Iron [3.5 mg/l Average Monthly, 7.0 mg/l Maximum Daily]
- Manganese [2.0 mg/l Average Monthly, 4.0 mg/l Maximum Daily]
- pH [6.0 standard units (s.u.) to 9.0 s.u.]

Cost. – There are no construction costs associated with the implementation of this project.

Relationship to the Comprehensive Plan. – The Limerick Nuclear Generating Station was included in the Comprehensive Plan, November 5, 1975, by Docket D-69-210 CP (Final), which incorporated the project description, conditional Findings and docket Decisions. The proposed pumped discharge is in the drainage area of the Pennsylvania Scenic River Area recreational designation that was included in the Comprehensive Plan by Docket No. D-78-50 CP on July 26, 1978.

FINDINGS

The receiving stream for the mine pool pumpage, locally known as Norwegian Creek, is designated as an unnamed tributary to the Schuylkill River and is classified as a Cold Water Fishery. Since the stream flows predominantly through a constructed channel that includes several culverted sections including a 0.9 mile underground reach in Pottsville, there is no substantial potential for adverse effects on the very limited existing aquatic community of the stream. The proposed augmented flow of aerated water with cool temperatures and favorable alkalinity is expected to enhance the conditions for aquatic life in the Schuylkill River in the vicinity of the Norwegian Creek outfall.

The proposed demonstration project should help develop operating criteria that will reduce the uncontrolled drainage from mine pool overflow and add base flow to approximately 78 miles of the Schuylkill River upstream of the LGS during low flow seasons. In addition, the project may indicate that it is possible to reduce the diversion from the Delaware River for consumptive cooling, (unless the diverted water is necessary to support operation of LGS), and an unused portion of water may be available for protecting regional potable water sources via augmentation use of the Point Pleasant diversion project and/or by allowing increased flow downstream of the Point Pleasant intake on the Delaware River, which will help maintain flows to the Lower Delaware River and improve the ability to meet DRBC low flow targets at Trenton. Several agencies, including the Pennsylvania Fish and Boat Commission and the PADEP, have reviewed the project application and have not expressed opposition. Many of their technical suggestions and those of other interested parties will be incorporated in the demonstration Monitoring Plan and the project Demonstration Operating Plan.

The applicant reports that there are two water supply wells within a one mile radius of the project pumping station and one of the wells is operational. However, past operations at the Wadesville mine have not caused water supply problems locally and the proposed activity is not expected to do so either. Before commencement of pumping operations, the applicant will enter into an agreement with Reading Anthracite Company, whose service will be provided to facilitate the project augmentation water. The provisions of Reading Anthracite's PADEP permit require it to replace any lost ground water supply that may result from this withdrawal.

The applicant projects that the demonstration project may indicate that a portion of the unused diversion from the Point Pleasant Delaware River source may be available in the future to supplement flow to the East Branch Perkiomen Creek to improve low flow maintenance and public water supply

systems downstream. Any future augmentation must remain within the applicants existing allocation and any increased or new allocation for downstream public water supply purveyors or other users would require a separate DRBC review. Such an augmentation, if provided, would be included in a future Section 3.8 review for a final Operating Plan.

The applicant's proposed augmentation flow from the Wadesville mine pool, 14.4 mgd, is approximately 1.3 times greater than the $Q_{7\text{-}10}$ low flow of the Schuylkill River (11.1 mgd) at the Pottsville gage. The background concentration of total dissolved solids (TDS) for the Schuylkill River at the augmentation discharge area, during average flows, averages between 400 and 500 mg/l; during low flow TDS averages about 900 mg/l. Therefore, background concentrations of TDS approach or exceed the secondary standard for potable use, 500 mg/l. The project discharge has been characterized to have a TDS concentration of approximately 1,500 mg/l, which would raise the TDS concentrations in the Schuylkill, near the augmentation discharge, to approximately 1,250 mg/l during $Q_{7\text{-}10}$ flow conditions. The applicant proposes a possible option for reducing increased TDS impacts to downstream potable water uses during low flow periods by releasing additional water, beyond that currently allowed, from Tamaqua Reservoir, which has a TDS of approximately 30 mg/l. The applicant's demonstration operating plan must include a water quality and biological monitoring program to ascertain potential downstream biota and public water supply impacts and an evaluation of feasible options to offset and mitigate any such impacts, if substantial. The nearest potable water supply that could be impacted is that of the City of Pottstown located approximately 78 river miles downstream of the augmentation discharge and 2 miles upstream of the LGS withdrawal. The $Q_{7\text{-}10}$ flow at the Pottstown withdrawal point is approximately 182 mgd. Preliminary TDS background information indicates that the applicant's potential future augmentation of approximately 17.3 mgd may raise the TDS concentration at Pottstown from a background of 450 mg/l to approximately 540 mg/l; at 14.4 mgd, the mine pool augmentation flow may raise the background TDS level at Pottstown to about 527 mg/l; this increase is less than the DRBC's allowable increase of one-third above background, but it exceeds the Secondary Standards criteria of 500 mg/l for potable water supply. Storage in Tamaqua Reservoir with TDS levels of approximately 30 mg/l, may help reduce TDS increases or provide an alternate supply when any TDS increase attributed to the augmentation substantially adversely impacts potability. The proposed project must demonstrate that such options are viable and the project will ultimately improve water quality relative to future unabated mine pool overflow, while not substantially adversely impacting public water supply and stream biota.

The project is consistent with DRBC Resolution No. 76-13, adopted on September 30, 1976, regarding the necessity of certain atomic-fueled power plants to provide supplementary water supply storage. During declared drought emergencies, consumptive use make-up demand by Limerick Electric Generating Project is satisfied via releases from Merrill Creek Reservoir and/or Tamaqua Reservoir.

All existing facilities and the operation of the Limerick Electric Generating Project remain as previously approved. No new facilities are proposed at the Limerick site as part of this application.

The project does not conflict with nor adversely affect the Comprehensive Plan, which is implemented to prevent substantial adverse impacts to the water resources related environment, while sustaining the current and future uses and development of the Basin water resources.

The applicant provided a proposed Demonstration Operating Plan which will be subject to modification by the Executive Director. It includes, but is not limited to, the following conditions:

- Prior to commencement of the demonstration, Exelon will develop a demonstration plan that includes data collection requirements. The plan will identify the parameters subject to data collection, collection methods, and responsibility for data collection. RAC will monitor the pump discharge pipes to measure the rate of flow and total gallons pumped using a meter type that is acceptable to DRBC. Prior to the demonstration, baseline data will be collected in accordance with the demonstration plan. This will include real time stream flow and precipitation data for the Schuylkill River Basin that is available at USGS' water resources web page.

- When Schuylkill River flow or temperature conditions are approaching the limits at which restrictions will be in effect (or if flow restrictions are already in place at the time of DRBC project approval), pumping from the Wadesville Mine pool will begin. When notified by Exelon, RAC will start both pumps for 24 hours per day, 7 days per week operation with the discharge flow at the specified demonstration pumping rate (9,000 – 10,000 gpm). Unless directed otherwise, RAC will continue pumping for the duration of the demonstration period.

- Flow augmentation will be continuous until the end of the season associated with flow restrictions except for periods when restrictions on supplying consumptive cooling makeup from the Schuylkill River are not required.

- When notified by Exelon that the seasonal flow augmentation requirement has been completed, RAC will shut down both pumps and allow the mine pool to recharge. The collection of data will continue after the pumping demonstration in accordance with the plan. When the level in the mine pool is restored, RAC may resume pumping as required to support active mining.

- Mining company personnel will be responsible to perform preventive and corrective maintenance to maximize reliable pumping system operation. However, in the event that pumping from the mine pool is interrupted or reduced, RAC will notify LGS and adjustments will be made to the make-up flow from Perkiomen Creek or Tamaqua as necessary during the time lag period when the water from the mine pool is in transit.

- Exelon will assess the completed demonstration and file an interim report with DRBC by the end of the year 2003. A final report is proposed for filing with DRBC prior to April 2004 to include an assessment of the mine pool recharge.

- Each such source shall be subject to review in accordance with criteria to be determined by a separate Section 3.8 approval for a Final Operating Plan.

- To increase reliability and to allow for operational flexibility, augmentation from Tamaqua may occur at any time when Schuylkill River flow and temperature restrictions require augmentation, subject to the yield limitations established for Tamaqua.

- Based on the addition of new augmentation sources, the applicant will continue to maintain a minimum conservation release of 10 cfs in the East Branch Perkiomen Creek increased to a minimum of 27 cfs, after use of the Point Pleasant Diversion System. No other flow augmentations will be required. This minimum release will be curtailed during times of naturally high flows in the East Branch Perkiomen Creek (DER Permit E09-077 and DRBC Docket D-69-210 CP (Final).

DECISION

I. The Comprehensive Plan of the DRBC, as amended by Docket No. D-69-210 CP (Final) on November 5, 1975, is hereby revised as follows:

(1) The provisions of Docket No. D-69-210 CP [attached and included as part thereof to D-69-210 CP (Final) (and Revisions)] headed "FINDINGS", "Sources of Water Supply", "1. Schuylkill River" is revised by the addition of a new paragraph (e) on page 5, which reads as follows:

(e) Water may be withdrawn from the Wadesville Mine Pool to augment Schuylkill River flows for subsequent withdrawal for consumptive use at Limerick for the proposed demonstration project described herein including use of the applicant's existing approved emergency back-up source, the Tamaqua Reservoir System in accordance with Exelon's project Demonstration Operating Plan, upon approval of such plan by the Executive Director. If any data or information indicates it necessary, the project operations shall be subject to modification by the Executive Director. For purposes of the proposed demonstration project, total augmentation from Wadesville mine pool shall not exceed 432 million gallons during any 30-day period.

(2) The following conditions shall be added to the provisions of Docket No. D-69-210 CP (Final), "DECISION" on page 15, sub headed "II" and as temporarily amended by Docket D-69-210 CP Final (Revision 8) on February 22, 1989 and subsequent revisions.

(ee) During the demonstration project, withdrawals from Wadesville Mine Pool will be regulated and controlled to prevent erosion in the receiving streams downstream. The applicant shall require Reading Anthracite Company to inspect the channel for erosion monthly during the demonstration period when withdrawals are made, from the discharge point to approximately 500 feet downstream of the New Wadesville Road. Applicant shall require Reading Anthracite Company to repair any erosion problems that occur as a result of the discharge, and take steps necessary to eliminate any recurrence of an erosion problem.

(ff) The applicant shall design and submit for approval by the Executive Director, prior to operation, a demonstration operating plan that shall include but not be limited to the following requirements: 1) Prior to operation under the demonstration project, the applicant shall characterize the discharge from Wadesville Mine Pool, to be utilized for augmentation, for PADEP NPDES Group 2 metals, dissolved oxygen, and total dissolved solids. 2) The applicant shall design its demonstration operating plan to include continued monitoring of each discharge used for augmentation and any necessary biota monitoring required by PADEP and/or the DRBC. 3) The applicant shall implement, to the satisfaction of the Executive Director, those recommendations of the Pennsylvania Fish and Boat Commission that are found by the Executive Director to be necessary and/or appropriate for project evaluation. 4) Monitoring shall encompass NPDES permit requirements and those characterization parameters that warrant continued monitoring. 5) Dissolved oxygen of the Wadesville discharge shall be monitored before it combines with East Norwegian Creek. 6) These parameters shall be monitored each week for the first month of the demonstration test and monthly thereafter, during periods of mine pool augmentation discharges. 7) Mine pool water level elevations shall be recorded daily. 8) Monitoring shall include turbidity in the Schuylkill River at Pottsville near the augmentation discharge area.

(gg) The Executive Director may modify the conditions of the demonstration project for both withdrawal and discharge if monitoring and/or characterization data results indicate it is appropriate for protection of in-stream water quality and flow.

(hh) The Executive Director may modify or suspend mine pool water discharges and/or Tamaqua releases, during the demonstration project, if evidence indicates that either is causing violations of water quality standards and/or causing unacceptable impacts to the aquatic biota of the receiving waters.

(ii) There shall be no increase in the installed depth of the Wadesville mine pool pump casing for consumptive use augmentation without prior notification to DRBC and approval by the Executive Director. The demonstration operating plan shall be designed to minimize unnecessary mine pool water discharges, recognizing the need to not cause further diminution of stream flow during low flow periods. The plan is subject to modification at any time by the Executive Director.

(jj) During the demonstration project, the applicant shall maintain detailed accurate records of mine pool water discharges. Exelon will notify DRBC each morning of any planned starting, stopping, or changing in mine pool water discharges and provide the timing and the quantities involved.

(kk) During any period, beginning four days subsequent to pumping from the Wadesville Mine Pool and ending two days subsequent to cessation of pumping from the Wadesville Mine Pool, under this demonstration project approval, the applicant is authorized to withdraw at its Limerick Generating Station intake a quantity of water equal to 97% of its pumpage rate from the mine pool, and the temperature and flow restrictions specified in Docket D-69-210 CP (Final), Findings, Paragraphs 1.a and 1.b shall be temporarily suspended.

(ll) 1. The applicant shall at all times maintain a minimum flow of 27 cfs in the East Branch of the Perkiomen Creek during the demonstration project.

2. a. The applicant will draft and implement a sampling and monitoring plan satisfactory to the Executive Director to evaluate any changes in water quality and water quantity in the East Branch of the Perkiomen Creek.

b. The applicant will draft and implement a sampling and monitoring plan satisfactory to the Executive Director to evaluate any changes in water quality in the area of the water supply intake of the Pottstown Borough Authority.

3. All sampling and monitoring results shall be provided to the DRBC for the purpose of posting on the DRBC's web site.

4. The applicant shall be subject to water supply charges in accordance with the provisions of the Commission's Water Supply Charges Regulations, as adopted by Resolution 74-6, as amended.

(3) Water temperature and aquatic habitat shall be monitored in the Little Schuylkill River during the operation of the Tamaqua Borough Reservoir system during the demonstration project.

(4) All monitoring information, mine pool water level data, and a report on the erosion inspection required above shall be compiled and submitted weekly when releases are being made.

(5) The applicant shall submit a draft report to the DRBC by February 29, 2004 and a final report by April 30, 2004 evaluating the demonstration project. The reports shall include, but not be limited to, the extent of the applicant's stakeholders involvement process, assessment of any viable and necessary mitigation needed to offset water quality impacts, including monitoring, releases from storage to offset TDS or other water quality impacts, the cost of any resulting additional public water supply treatment, alternate source water treatment, biota assessment, and any feasible alternatives.

(6) Prior to submittal of any application for continued or long-term augmentation operations that may result from this demonstration project, the Applicant shall develop a Final Operating Plan, and shall coordinate the development of such Final Operating Plan with a technical advisory committee to be designated or established by the DRBC in consultation with PADEP.

(7) This demonstration project approval shall expire six months from the date of approval, unless extended by the Executive Director.

II. The above temporary revisions to the Limerick Nuclear Generating Station Project are hereby approved pursuant to Section 3.8 of the Compact, subject to the conditions above.

BY THE COMMISSION

DATED: June 26, 2003